DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
NATIONAL INSTITUTES OF HEALTH
BETHESDA, MARYLAND 20205

August 7, 1980

Mr. Charles Massey
President, March of Dimes
Birth Defects Foundation
1275 Mamaroneck Avenue
White Plains, New York 10605

Dear Mr. Massey,

I have just returned from the Short Course on Medical Genetics given by Drs. McKusick and Roderick and their colleagues. This is just a note to thank you for funding the course, to describe its importance to my own scientific work, and to strongly recommend continued funding of the course, as I am convinced it fills a unique niche, and that it is irreplacable. I have included a letter of thanks that I wrote to Dr. Roderick -- from this you may be able to infer (correctly) that the course has already had an enormous impact on my thinking about my own scientific work. But to judge this accurately, you would have to know more about what I do.

My colleagues and I at the N.I.H. are interested in studying the genetic and environmental contributions to the differentiation of nerve cells as represented in their final shape and function. This is so difficult a question that we felt it essential to develop a model system simpler than a mammal or even a lower vertebrate. Other invertebrate model systems for neurophysiology already exist, but we were struck by the advantages of certain freshwater Planorbid snails. Briefly, they have large, easily accessible neurons, and they can be cultured readily in the laboratory. We are attempting to gain insight into the way in which the genome instructs the neuron to differentiate into its final elaborately branched pattern. To do this we are employing the same logic that has worked so well in the study of mice: inbreeding to produce isogenic lines from various backgrounds. We now have almost 200 lines of inbred snails from all over the world, and we are looking to find differences in the structure and function of their nerve cells.

The analogy with the enormous library of inbred mouse strains convinced me that it would be a good idea to consult the staff of The Jackson Laboratory. I have a good background in genetics, and was familiar with most of their published work, and so I was astonished at the amount I learned in the two-week period of the course. Simply the discussions with the faculty of the Genetics

course would have made the entire trip worthwhile. Then too, many of the results that were presented are currently unpublished and would not normally be available for one or two years, or in some cases even longer. Also there was the opportunity to consult with the faculty and the staff at Jackson on some of the specific findings and problems that I had encountered in my own work. The interest and enthusiasm was contagious. I was pleased and surprised to find that people were quite interested in the genetics of a non-mammalian system, and I found the interaction very beneficial. In summary, the entire experience was enormously helpful, and may well affect the future course of my work.

Because of my great enthusiasm for the effectiveness of the course, I was deeply disturbed to hear that it was possible that it might not be offered in the future. I can not think of anything that would effectively replace it; I am not aware that anything like it is offered elsewhere. Certainly no advanced university course in genetics could be compared to it. I know it has had a dramatic effect on my own outlook and research plans and so I am convinced by analogy that it must be equally important to many of the other workers enrolled in the course.

I have included a recent reprint which describes some of the work I have done on methods for determining the shape of nerve cells. Some of this technology is being used in the project I described above. Also, this method has turned out to be generally useful to other neurophysiologists.

For the reasons given above, I feel very strongly about the desirability of continuing the course. I think it would be an irreplacable loss if the privilege granted to me and to the other students were not available in the future to other scientists and educators who might be similarly benefited. If there is anything I can do to make it more likely that this invaluable opportunity will be available next year, I would appreciate your letting me know.

Regards,

Walter W. Stewart

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